CHARACTERIZING PPPD VIA BALANCEBELT, FUNCTIONAL REACH, AND SENSORY ORGANIZATION TEST

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BACKGROUND AND PURPOSE: Persistent Postural-Perceptual Dizziness (PPPD) is a syndrome of persistent, non-vertiginous dizziness and unsteadiness worsened by patients’ visual motion and complexity. A new theory suggests that PPPD may be better rehabilitated with physical therapy using a prosthesis to enhance sensory feedback. The goal is to test the hypothesis that the BalanceBelt™ will provide information about sway movements during tasks in patients with PPPD that is not currently available.

SUBJECT(S): The measures from the BalanceBelt™ will be compared between 10 patients with PPPD and 10 age- and gender-matched normal individuals.

METHODS AND MATERIALS Postural movements were recorded using the BalanceBelt™ with vibrators turned off during Dynamic Gait Index, functional reach test, and Sensory Organization Test.

ANALYSES Non-parametric analysis of mean values of outcome measures for the BalanceBelt™ and for the evaluations will be performed using the Wilcoxon/Kruskal-Wallis test. Descriptive statistics will also be provided in comparison of clinical tests versus BalanceBelt™ outcomes. As a pilot study no further in-depth statistical analysis or power study analysis are appropriate. RESULTS Preliminary analysis to date of 4 control subjects and 7 PPPD patients shows that the outcome measures of the BalanceBelt™ parallel those of the clinical test for differences between control subjects and patients. However, the BalanceBelt™ does provide medial-lateral sway that is different between controls and patients and is not extracted from routine tests.

CONCLUSIONS Assuming the above significant differences continue with completion of subjects, the study would provide a positive response to testing of the hypothesis listed; BalanceBelt™ does provide differentiating information beyond that found from routine tests to characterize postural control strategies of PPPD patients.

IMPLICATIONS Assuming the positive results of this pilot study is verified in a large clinical trial, the use of medial-lateral sway magnitude would add to the objective physical characteristics to differentiate patients with PPPD from patients with other diagnoses as their source for chronic dizziness.